

REMARKS

Applicants have amended their claims, by adding new claims 49-53 to the application. Claims 49-53, dependent respectively on claims 1, 4, 5, 10 and 45, each recites that the oxidation prevention film is removed after the oxidation of only a portion (that is, after the selective oxidation) of the semiconductor substrate. In connection with claims 49-53, note, for example, claims 44 and 48 of Applicants' specification.

It is respectfully submitted that the claims presently being added to the application patentably distinguish over the teachings of the references applied in the Final Office Action mailed July 30, 2002, in connection with the above-identified application. It is respectfully submitted that the teachings of the applied references would have neither disclosed nor would have suggested such a method of fabricating a semiconductor device as in the present claims, including the sequence of processing steps with removal of the insulating film formed on the oxidation prevention film and oxidizing only a portion (that is, selective oxidation) of the semiconductor substrate extending from the corners, and eliminating the oxidation prevention film formed on the semiconductor substrate, and wherein the oxidation prevention film is eliminated or removed after oxidizing only a portion (that is, selective oxidation) of the semiconductor substrate. See each of the presently newly added claims; note also, for example, claims 9, 39, 42, 46 and 48.

As stated in the sole full paragraph on page 26 of Applicants' specification, Applicants have recognized that curvature formation at, e.g., the upper end portion of the trench, is important to reduce concentration of both mechanical and electrical stress fields, in order to provide a reliable device with shallow trench insulation.

Having recognized this, Applicants provide simple techniques for increasing curvature (providing roundness) at the top corners of the trench; and, according to various aspects of the present invention, provides such increase in curvature by, for example, additional oxidation, *inter alia*, prior to removal of the oxidation prevention film. Only a small amount of additional, selective oxidation is utilized to provide the roundness at the upper corners of the trench; and, for example, the filler material (for example, chemical vapor deposited oxide) is removed prior to performing the additional oxidation (to increase curvature), with the oxidation prevention film being removed after the additional oxidation.


Teachings of the references as applied by the Examiner in the Final Office Action mailed July 30, 2002, are discussed on pages 27-34 of the Amendment After Final Rejection filed December 2, 2002. As can be seen therefrom, as well as from a full review of the applied references, such references would have neither taught nor would have suggested the presently claimed subject matter, including, *inter alia*, wherein the oxidation prevention film is eliminated after the selective oxidation of only a portion of the semiconductor substrate, for example, to provide a curvature at the upper end portion of the trench, with the selective oxidation being performed after burying the buried insulating film in the trench and removing the insulating film on the oxidation prevention film.

~~In view of the foregoing, entry of the present claims 49-53 and of the~~
amendments in the Amendment After Final Rejection filed December 2, 2002, and reconsideration and allowance of all claims remaining in the application, are respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.36904X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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